

Application No. 10/019,904
Paper Dated: September 24, 2008
In Reply to USPTO Correspondence of March 25, 2008
Attorney Docket No. 3305-012184

REMARKS

Applicants acknowledge with appreciation the Examiner's indication that the Declaration filed on October 23, 2006 under 37 C.F.R. §1.131 is sufficient to overcome the Dickey et al. patent as a reference against the claims of the present application.

Claims 9, 13, 15, 17-20, 22 and 24 stand objected to for various informalities. In response to these objections, claim 9 has been amended, claims 13, 15, 17-20, 22 and 24 cancelled, and new claims 25-30 added. After the foregoing amendments, claims 1-12, 14, 16, 21, 23 and 25-30 are pending in the application. It is believed that the foregoing amendment to claim 9 and the cancellation of claims 13, 15, 17-19, 22 and 24 overcome the objections to these claims.

Claims 1, 2, 4, 7, 14-17, 23 and 24 stand rejected under 35 U.S.C. §102(e) for anticipation by U.S. Patent No. 6,757,412 to Parsons et al. Claims 3, 5, 6, 8-13 and 18-22 stand rejected under 35 U.S.C. §103(a) for obviousness from the teachings of the Parsons et al. patent in view of various combinations of U.S. Patent Nos. 6,023,637 to Liu et al.; 6,081,577 to Webber; 6,216,540 to Nelson et al.; 5,533,139 to Parker et al.; and 5,692,510 to Gordon et al. Reconsideration is requested.

The Parsons et al. patent was filed on October 19, 1999 and claims priority from U.S. Provisional Application No. 60/105,147, filed on October 21, 1998 (hereinafter "the '147 provisional application"). A copy of the '147 provisional application accompanies this Amendment.

In the Declaration Under 37 C.F.R. §1.131 that accompanied the October 18, 2006 Response to the July 18, 2006 Office Action, Applicants establish that the present invention was reduced to practice prior to June of 1999. Since the Parsons et al. patent was filed on October 19, 1999 (after June of 1999), the Parsons et al. patent can anticipate the present invention only if the '147 provisional application discloses all the limitations of independent claims 1, 14 and 25. A careful comparison of the '147 provisional application and the Parsons et al. patent, however, reveals that the Parsons et al. patent contains considerably more disclosure than the '147 provisional application and that the '147 provisional application does not disclose all the

Application No. 10/019,904
Paper Dated: September 24, 2008
In Reply to USPTO Correspondence of March 25, 2008
Attorney Docket No. 3305-012184

limitations of independent claims 1, 14 and 25. For example, without limitation, in the rejection of claims 1 and 14, the Examiner alleges, among other things, that column 14, line 30 through column 16, line 20 of the Parsons et al. patent discloses a mapping of data points as gray/color values corresponding to the position of the data in the field of view. However, there is no corresponding disclosure in the '147 provisional application. Accordingly, since the '147 provisional application does not disclose the features being relied upon by the Examiner in the Parsons et al. patent, and since the subject application has an effective filing date before the filing date of the Parsons et al. patent, the Parsons et al. patent cannot anticipate independent claims 1, 14 and 25 of the present application, or claims 2-12, 16, 21, 23 or 26-30 dependent therefrom.

Notwithstanding the fact that the Parsons et al. patent does not anticipate independent claims 1, 14 and 25 of the present application, or claims 2-12, 16, 21, 23 or 26-30 dependent therefrom, Applicants submit the accompanying Declaration Under 37 C.F.R. §1.131 to antedate the Parsons et al. patent and the '147 provisional application as references against the present application.

In the attached Declaration, Mr. Victor John Yannacone, Jr. declares that the present application is the national stage application of International Application No. PCT/US00/16851, filed June 20, 2000, which claims priority from U.S. Provisional Patent Application No. 60/140,128, filed June 21, 1999 (hereinafter "the '128 provisional application").

Mr. Yannacone further declares that he acquired thermal images in accordance with the teachings of the present application of individuals as part of a process of correlating these thermal images with actual clinical data acquired from the individuals. A copy of one of the thermal images acquired in accordance with the teachings of the present application prior to October of 1998 accompanies the Declaration.

Between the time prior to October of 1998 and the filing of the '128 provisional application, Mr. Yannacone declares that he correlated thermal images acquired prior to October of 1998 with actual clinical information acquired from the individuals who provided the images. Moreover, between the time prior to October of 1998 and the filing of the '128 provisional

application, Mr. Yannacone declares that he diligently conducted an ongoing investigation into the theory of the invention disclosed and claimed in the subject application in order to understand and refine the invention. This ongoing investigation included, without limitation, interviews of medical professionals and reviewing documents, such as medical, scientific and technical journals.

Mr. Yannacone further declares that during this period there was considerable uncertainty in the scientific and medical communities concerning the mammalian thermoregulatory processes and the role of the sympathetic or autonomic nervous system in mediating or modulating such processes. It was during this period that the discovery of neoangiogenesis as the fundamental process of supplying blood to neoplastic lesions occurred and only in early 1999 was this discovery confirmed that neoangiogenic blood vessels supplying neoplastic lesions lacked any sympathetic nervous system control. This was the final element of the theoretical basis for the invention.

Based on the understanding of the invention that Mr. Yannacone learned from his investigation, in or about the spring of 1999, Mr. Yannacone declares that he was in a position to fully explain the invention to patent counsel at the law firm of Webb, Ziesenheim, Logsdon, Orkin and Hanson, P.C. (now "The Webb Law Firm, P.C."). Thereafter, Mr. Yannacone declares that he reviewed a number of drafts of the '128 provisional application prepared by patent counsel prior to it being filed on June 21, 1999.

Based on the foregoing Declaration, Applicants have antedated the Parsons et al. patent and the '147 provisional application with respect to all of the subject matter disclosed therein.

Notwithstanding that the Parsons et al. patent and the '147 provisional application are not prior art to the present invention, for the purpose of fully responding to the Office Action, hereinafter Applicants will respond to various rejections in the Office Action that rely on the Parsons et al. patent as though the Parsons et al. patent was valid prior art to the present invention (which it is not). Applicants' arguments for the allowance of various claims of the present application over the Parsons et al. patent, either individually or in combination with other prior

art, however, is not to be construed as an admission that the Parsons et al. patent or the '147 provisional application are prior art to the present invention.

Regarding claim 4, claim 4 depends from claim 1 and includes the further limitation that determining each value in step (c) includes determining a first derivative or a second derivative. In claim 1, each such value is mapped to a color or shade of gray which in turn is mapped to a position in an image corresponding to the position of the corresponding optel in the field-of-view. As noted above, the '147 provisional application does not disclose, teach or suggest mapping values to colors or shades of gray. Pages 12 and 13 of the '147 provisional application disclose cooling models based on a double-exponential decay or a series expansion thereof. Page 15 of the '147 provisional application discloses variables that can be utilized in a differential model. However, the '147 provisional application does not disclose, teach or suggest determining a value that is a first derivative or a second derivative of the IR radiation received from the same optel in at least two frames. Accordingly, the '147 provisional application and, hence, the Parsons et al. patent, cannot anticipate claim 4 of the present application.

In the rejection of claim 11, the Examiner admits that the Parsons et al. patent in view of the Liu et al. patent fails to disclose the use of a grid. However, the Examiner alleges that the Nelson et al. patent discloses the use of a grid.

The Nelson et al. patent discloses the use of collimation in connection with radiation that propagates through, interacts with, exits the medium and the object, and is detected/imaged (see Nelson et al. patent Abstract). In contrast, claim 11 recites that thermal energy is conveyed to a patient through a grid which is positioned between the IR imaging camera and the patient. A frame of IR radiation is acquired directly from the patient. Thus, in contrast to the teachings of the Nelson et al. patent which discloses that the same radiation that is propagated through a medium is detected, claim 11 recites that thermal energy is conveyed to the patient and IR energy radiating from a patient is acquired. In addition, the thermal energy is conveyed to the patient through the grid and, because the grid is positioned between the IR imaging camera and the patient, the frame of IR radiation is acquired through the grid. The

Nelson et al. patent does not disclose, teach or suggest conveying thermal energy to a patient through a grid and acquiring a frame of IR radiation from the patient through the same grid.

Accordingly, the Parsons et al., Liu et al. and Nelson et al. patents, either individually or in combination, cannot render obvious claim 11 of the present application.

In the rejection of claim 18 (rewritten as new claim 28), the Examiner admits that the Parsons et al. patent fails to disclose logarithmic image acquisition. However, the Examiner alleges that the Parker et al. patent discloses this feature.

The Parker et al. patent is directed to detection of coating imperfections on a coated web. It is respectfully submitted that the Parker et al. patent is not prior art to the present invention. To this end, the Parker et al. patent discloses the use of a light source 12 for supplying transmissive illumination to a moving coated support web 14 to be analyzed. The Parker et al. patent does not disclose, teach or suggest the acquisition of infrared radiation. Because the Parker et al. patent is directed to acquiring images in the visible light spectrum versus acquiring infrared radiation, there is no apparent reason to combine the teachings of the Parker et al. and Parsons et al. patents in the manner suggested by the Examiner. Since the Parker et al. patent is not prior art to the present invention, the combination of the Parsons et al. and Parker et al. patents cannot render obvious new claim 28 of the present application.

In the rejection of claim 19 (rewritten as new claim 29), the Examiner admits that the Parsons et al. patent fails to disclose the use of synchronized acquisition. However, the Examiner alleges that the Gordon et al. patent, column 6, lines 29-34, discloses acquisition synchronized to heartbeat cycles of a patient.

New claim 29 recites that the means for determining further determines the value corresponding to a change of IR radiation acquired from the same optel in at least two frames that are separated in time by at least one frame. In contrast, column 6, lines 29-34 of the Gordon et al. patent discloses that end-diastolic images are stored for further analysis by an electrocardiogram-R-wave (EGG-R-wave) triggering of the thermography system, to minimize cardiac motion artifacts. However, as can be seen, there is no disclosure, teaching or suggestion in the Gordon

Application No. 10/019,904
Paper Dated: September 24, 2008
In Reply to USPTO Correspondence of March 25, 2008
Attorney Docket No. 3305-012184

et al. patent to determine a change of IR radiation acquired from the same optel in at least two frames that are separated in time by at least one frame.

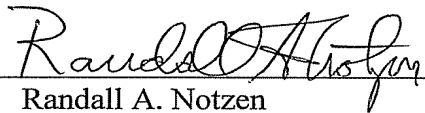
Absent disclosing, teaching or suggesting an infrared imaging apparatus having all the limitations of new claim 29, the Parsons et al. and Gordon et al. patents, either individually or in combination, cannot render obvious new claim 29.

CONCLUSION

Based on the foregoing Amendments and Remarks, and the accompanying Declaration Under 37 C.F.R. §1.131, reconsideration of the objections and rejections and allowance of claims 1-12, 14, 16, 21, 23 and new claims 25-30 are requested.

Respectfully submitted,

THE WEBB LAW FIRM, P.C.

By 

Randall A. Notzen
Reg. No. 36,882
Attorney for Applicants
700 Koppers Building
436 Seventh Avenue
Pittsburgh, PA 15219-1818
Telephone: 412-471-8815
Facsimile: 412-471-4094